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EXAMINER	
TORRES VELAZQUEZ, NORCA LIZ	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/919,565
Filing Date: July 31, 2001
Appellant(s): BANSAL ET AL.

Thomas W. Steinberg
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 07, 2005.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of the Claimed Subject Matter

The summary of invention contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the issues in the brief is correct.

(7) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Prior Art of Record

5,405,682	SHAWYER et al.	4-1995
6,417,121 B1	NEWKIRK et al.	7-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5-6, 8-9, 11-14, 24-26 and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over SHAWYER et al. (US 5,405,682) in view of NEWKIRK et al. (US 6,417,121 B1).

SHAWYER et al. discloses a nonwoven fabric of SHAWYER et al. made with multicomponent polymeric strands including first and second polymeric components arranged in substantially distinctive zones across the cross-section of the multicomponent strands. The second component of the strands constitutes at least a portion of the peripheral surface of the multicomponent strands continuously along the length of the multicomponent strands and include a blend of a polyolefin and a thermoplastic elastomeric polymer. (Column 3, lines 27-42) The reference discloses that the nonwoven webs may be formed by a variety of processes such as meltblowing processes, spunbonding processes and staple fiber carding processes. (Column 6, lines 35-36) Additionally, as evidence by Sudduth et al. (5,770,531), meltblown fiber inherently have a diameter of smaller than 10 microns (column 3, lines 15-20) and spunbond filaments inherently have a diameter of larger than 7 microns, particularly between 10 and 20 microns.

(Column 3, lines 2-5). Thus, the fibers taught by SHAWYER et al. made by a meltblowing process would inherently have the claims diameters.

SHAWYER et al. teaches that the first component A of the multicomponent strands preferably has a melting point higher than the second component. The first component A includes a polyolefin and the second component B includes a blend of a polyolefin and a thermoplastic elastomeric material. Suitable polyolefins for the first component A may comprise polymers such as polyesters. Suitable polyolefins for the second component B include polyethylene and random copolymers of propylene and ethylene. (Column 7, lines 3-22) The reference further teaches the use of poly(ethylene-butylene) for the thermoplastic elastomeric polymer. (Column 3, lines 27-47) The Examiner equates the first component A of SHAWYER et al. to the second polymer component of the present invention and the second component B of SHAWYER et al. to the first polymer component of the present invention.

The reference further teaches that the first component preferably comprises a polyolefin but may also comprise other thermoplastic polymers such as polyesters. (Column 4, lines 9-11) The first polymeric component of the multicomponent strands of the invention are present in an amount of from about 20 to about 80% by weight of the strands and the second polymeric component is present in an amount form about 80 to about 20% by weight of the strands. (Column 4, lines 22-27) The reference further teaches that the bonds between the multicomponent strands may be formed by the application of heat. The addition of the thermoplastic elastomeric polymer enhances the give of the bonds between the multicomponent strands. (Column 3, lines 27-47)

In another embodiment of their invention, the reference teaches a structure with two webs thermally point bonded together to form a cloth-like material. The reference teaches that the second web may be a spunbond material. (Refer to Column 13, lines 21-30, 49-54)

SHAWYER et al. fails to teach that the first and second polymers are non-elastomeric polymers.

NEWKIRK et al. provides multicomponent fibers arranged in structured domains. At least one of the polymer components is formed of a multipolymer blend. (Abstract) The multicomponent fibers of the invention include at least two polymer components arranged in structured domains. At least one of the polymer components is formed of a select blend of specific grades of polyethylene and polypropylene, which give improved fabric performance. The reference teaches that these blends have excellent melt spinning and processing properties, which permit efficiently producing nonwoven fabrics at high productivity levels. (Column 3, lines 17-25) The reference teaches that the multicomponent fibers can be continuous filaments, staple fibers, or meltblown fibers. (Column 3, lines 37-38) The reference teaches that the blending of relatively small proportion of polypropylene with the polyethylene imparts greatly increased abrasion resistance. (Column 3, lines 26-29) The reference also teaches the use of polyethylene terephthalate core in a sheath/core fiber. It also teaches other structured fiber configurations such as side-by-side. (Column 7, lines 8-15) A preferred embodiment of the invention is a sheath/core bicomponent fiber in which the sheath is formed of a polymer blend. (Column 7, lines 50-53) The multicomponent blend component of the multicomponent fibers of the invention is predominantly formed from polymers that normally are considered nonelastic. (Column 7, lines 56-58)

Since both, SHAWYER et al. and NEWKIRK et al. are directed to nonwoven fabrics made from multicomponent fibers, the purpose disclosed by NEWKIRK et al. would have been recognized in the pertinent art of SHAWYER et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the polymer components and provide with nonelastic polymer components the motivation of having better spinning, bonding and strength characteristics to the component and increase the abrasion resistance of the components as disclosed by NEWKIRK et al. (Column 3, lines 26-29 and 49-54)

(10) Response to Argument

1. Appellant argues that the Shawyer et al. reference fail to disclose Multiple Component Meltblown Fibers/Webs and that it never indicate that their inventive webs can be made by meltblowing. It is noted that the citation of Shawyer et al.'s discussion of the various methods of making nonwoven webs seems to be taken by the Examiner to imply that Shawyer et al. intend to disclose that their inventive fabrics can be meltblown fabrics, within the scope of the present claims. Appellant cites Col. 6, lines 20-25 of the reference in which it is disclosed that the preferred mode to form the nonwoven fabric of Shawyer et al. is by a continuous spunbond multicomponent filaments.

   Appellant's arguments are noted, however, the Examiner maintains her position that the Shawyer et al. reference teaches that nonwoven webs may be formed by a variety of processes such as meltblowing processes, spunbonding processes, film aperturing processes and staple fibers carding processes as disclosed in Col. 6, lines 30-38. The fact that the reference teaches spunbonding as the preferred mode, does not preclude the use of other methods such as meltblowing since the reference literally teaches that the terms "nonwoven web"

and "nonwoven fabric" are used interchangeably to mean a web of material which has been formed without use of weaving processes which produce a structure of individual strands which are interwoven in an identifiable repeating manner and further teaches that such construction can be formed by processes such as spunbonding and meltblowing. (Refer to Col. 6, lines 30-38) Therefore, it is the Examiner's position that the use of meltblowing in the formation of the web is within the scope of the SHAWYER et al. reference.

2. Appellant argues that the proposed combination would destroy the Shawyer et al. reference.

It is noted that the SHAWYER et al. reference discloses a nonwoven fabric made with multicomponent polymeric strands including first and second polymeric components. SHAWYER et al. teaches a first component A (equated to presently claimed second polymer component) that includes a polyolefin. It is further noted that the reference teaches the use of thermoplastic polymers such as polyesters or polyamides as alternatives to the polyolefin. The second component B of SHAWYER et al. includes a blend of a polyolefin (such as polyethylene) and a thermoplastic elastomeric material (such as random copolymers of propylene and ethylene). Component B of Shawyer et al. is equated to the presently claimed first polymer component. (Refer to Col. 7, lines 3-22) However, the blend of second component B of SHAWYER et al. includes a thermoplastic elastomeric material versus a non-elastomeric material as claimed in the present invention.

It is noted that the use of the thermoplastic elastomeric polymer in the invention of SHAWYER et al. imparts some give to the bond points between the

multicomponent strands and thereby enables the fabric to distribute stress. As a result, the fabric of SHAWYER's invention has a higher tensile energy and abrasion resistance while maintaining a high level of softness. (Col. 5, lines 53-59)

The Examiner has relied on NEWKIRK et al. to modify the polymer components of SHAWYER et al. and provide them with non-elastomeric polymer components with the motivation of having better spinning, bonding and strength characteristics and increase the abrasion resistance to a nonwoven fabric formed from the polymer blend, without significant adverse effect on the fabric softness properties. (Col. 3, lines 26-32 and 49-54 of NEWKIRK et al.)

It is the Examiner's conclusion that the proposed modification would NOT render the prior art invention being modified unsatisfactory for its intended purpose since both references teach achieving similar beneficial properties by the use of elastomeric and non-elastomeric polymers in the polymer blend. Therefore, the use of non-elastomeric polymers in the polymer blend would be recognized satisfactory for the purpose of SHAWYER et al.

3. Appellant further argues that Newkirk et al. polymer blends are outside the scope of appellant's claims. Appellant directs attention to the limitations of present claim 1 (and independent claim 24), wherein the blend of the first polymer component are described by a Markush recitation that does not include polypropylene.

It is noted that the polymers taught by the references of SHAWYER et al. and NEWKIRK comprises the compounds claimed in the present invention, since the both references teach achieving similar beneficial properties, it is the Examiner's position that the compounds taught by the references would provide the claimed meltblown web. (Refer to Col. 7, lines 3-46 of SHAWYER et al.)For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Norca L. Torres-Velazquez
Examiner
Art Unit 1771

nltv
April 27, 2005

Conferees
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